

REMARKS

The status of the claims 1-29 is as indicated above. No claims have been added, amended, cancelled or withdrawn per this Response. The Applicant respectfully requests that this application be allowed and forwarded on to issuance.

Allowable Subject Matter

Claims 11-15 are presently allowed (page 4 of Office action). Applicants acknowledge and thank the Examiner for the indication of allowed subject matter.

Claims 8, 17, 24-25 and 28 are objected to as being dependent upon respective rejected base claims, but would be allowable if respectively rewritten in independent form. Applicants thank the Examiner for the indication of allowable subject matter. However, for reasons provided below, the Applicants respectfully assert that claims 8, 17, 24-25 and 28 depend from allowable base claims and are thus allowable as-is. The Applicants further assert that only allowable subject matter is now present in the claims, and that the application is in proper form for allowance.

§ 102 Rejections

Claims 1-7, 9-10, 16, 18, 19-23 and 29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,996,880 ("Chu").

The Claims

Claim 1 recites an apparatus comprising:

- a circuit board having front and back surfaces;

- at least one memory device having a plurality of pins mounted on the front surface of the circuit board;
- at least one other memory device having a plurality of pins mounted on the back surface of the circuit board;
- said memory devices being mounted on the circuit board such that at least some pins from the one memory device align with at least some pins of the other memory device to provide aligned pin pairs; and
- a via disposed in the circuit board and extending between and connecting individual pins of an aligned pin pair.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Chu. Applicant respectfully disagrees and traverses the Office's rejection.

Specifically, Chu fails to disclose one and another memory device respectively mounted on front and back surfaces of a circuit board such that at least some pins from the one memory device align with at least some pins of the other memory device to provide aligned pin pairs, as recited in this claim.

Specifically, Chu is directed to memory modules having DRAM chips mounted on opposite surfaces. In no case does Chu disclose or, for that matter, express any concern whatsoever for the alignment of respective memory devices pins so as to define respective, aligned pin pairs as recited in this claim. Accordingly, for at least this reason, this claim is allowable.

Claims 2-10 are allowable as depending from an allowable base claim.

Claim 16 recites an apparatus comprising:

- a circuit board having front and back surfaces;
- at least one memory means mounted on the front surface of the circuit board, said memory means comprising address means and control means;
- at least one other memory means mounted on the back surface of the circuit board, said other memory means comprising address means and control means;

- means extending through the circuit board and operably connecting individual address means and control means from the one memory means with individual address means and control means from the other memory means;
- said means extending through the circuit board being shared between individual respective address means and control means.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Chu. Applicant respectfully disagrees and traverses the Office's rejection.

Specifically, Chu fails to disclose means extending through the circuit board and operably connecting individual address means and control means from the one memory means with individual address means and control means from the other memory means, as recited in this claim.

To the contrary, Chu teaches a complex configuration of conductive layers and vias within a memory module so as to interconnect power and ground pins on respective DRAM chips (Fig. 7 of Chu). This is important to Chu, as the power and ground layers within the memory module serve as elements defining one or more decoupling capacitors within the memory module (Col. 8, lines 13-63 of Chu). However, Chu is completely devoid of any discussion related to connecting address means and/or control means between one memory means and another. Accordingly, for at least this reason, this claim is allowable.

Claims 17-18 are allowable as depending from an allowable base claim.

Claim 19 recites a method comprising:

- providing a circuit board having front and back surfaces;
- mounting a first plurality of memory devices on the front surface of the circuit board, each memory device having a plurality of address pins and control pin; and

- mounting a second plurality of memory devices on the back surface of the circuit board, each memory device having a plurality of address pins and control pins;
- said acts of mounting being sufficient such that at least some address and control pins from a front surface-mounted memory device share individual respective vias with at least some corresponding address and control pins of a back surface-mounted memory device.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Chu. Applicant respectfully disagrees and traverses the Office's rejection.

Specifically, Chu fails to disclose mounting first and second pluralities of memory devices on respective front and back surfaces of a circuit board, wherein said acts of mounting are sufficient such that at least some address and control pins from a front surface-mounted memory device share individual respective vias with at least some corresponding address and control pins of a back surface-mounted memory device, as recited in this claim.

Again, Chu expresses no concern or provides any teachings directed to at least some address and control pins on respective front surface- and back surface-mounted memory devices sharing individual respective vias. Accordingly, for at least this reason, this claim is allowable.

Claims 20-29 are allowable as depending from an allowable base claim. In addition, to the extent that claim 19 is allowable, the obviousness rejection of claim 27 over Chu is not seen to add anything of significance.

Conclusion

The Applicants assert that Claims 1-29 are in condition for allowance. Accordingly, Applicants request reconsideration of Claims 1-29 and issuance of a Notice of Allowability forthwith.

Respectfully submitted,

Dated: 5/24/06By: 

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